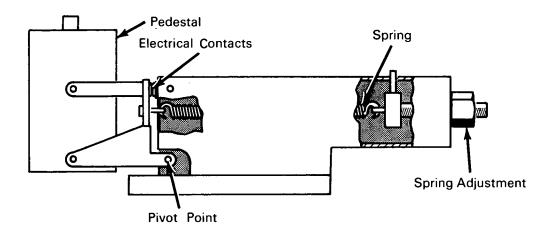
NASA TECH BRIEF



NASA Tech Briefs are issued to summarize specific innovations derived from the U.S. space program, to encourage their commercial application. Copies are available to the public at 15 cents each from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151.

Gage Accurately Controls Force for Placing Chips on Substrates



The problem:

To develop a device to control the force used in manually placing chips on substrates. The device must precisely control the compression load between 2 small members at loads as low as 25 grams.

The solution:

A chip placement force control gage that is preset by varying the spring deflection.

How it's done:

The module is placed in a holder and placed on top of the pedestal. The chip is manually placed on the module. A force is applied to the top of the device and the pedestal starts a downward movement. This is sensed through the electrical contacts which are in series with a signal light within the operator's view. When the preset placement force is reached, the contacts open. This preset force varies with the specific component. A signal light informs the operator that the proper load has been reached.

Notes:

- 1. The gage is accurate to within 5% at a 50-gram load. Since the inaccuracy is a function of the spring override, it may be further controlled by replacing the spring with a counterweight.
- 2. Inquiries concerning this invention may be directed to:

Technology Utilization Officer Marshall Space Flight Center Huntsville, Alabama 35812 Reference: B66-10675

Patent status:

Inquiries about obtaining rights for the commercial use of this invention may be made to NASA, Code GP, Washington, D.C. 20546.

Source: W. P. Benzie
of IBM
under contract to
Marshall Space Flight Center
(M-FS-1941)
Category 01

This document was prepared under the sponsorship of the National Aeronautics and Space Administration. Neither the United States Government nor any person acting on behalf of the United States Government assumes any liability resulting from the use of the information contained in this document, or warrants that such use will be free from privately owned rights.